



ANSWERS

You should TRY to complete all problems using the hints on page 1 (**STRUGGLE!!!**) **before** looking at the answers here. Only use this page to check your work & look for errors. Otherwise, it won't actually help you very much.

1. Speed in driving is calculated by miles divided by hours, or miles per hour. This can be written using this formula: $SPD = \frac{MI}{HR}$. Rearrange this formula to solve for the number of hours.

$$HR(SPD) = \left(\frac{MI}{HR}\right)(HR)$$

$$\begin{aligned} SPD \times HR &= MI \\ \div SPD &\quad \div SPD \\ HR &= \frac{MI}{SPD} \end{aligned}$$

2. $y = \frac{1}{2}x^2 - 4$. Solve for x.

$$\begin{aligned} 4 + (y) &= \left(\frac{1}{2}x^2\right) + 4 \\ 2(y + 4) &= \left(\frac{1}{2}x^2\right) 2 \\ \sqrt{2y + 8} &= \sqrt{x^2} \\ \sqrt{2y + 8} &= x \end{aligned}$$

Note: this could also be written this way in Khan Academy: $(2y + 8)^{\frac{1}{2}} = x$ OR $\text{sqrt}(2y+8)=x$

3. $a = \frac{2}{3}bc^3 - d$. Solve for c.

$$\begin{aligned} d + a &= \left(\frac{2}{3}bc^3 - d\right) + d \\ \left(\frac{3}{2}\right)(d + a) &= \left(\frac{2}{3}bc^3\right)\left(\frac{3}{2}\right) \\ \frac{3(d + a)}{2} &= bc^3 \\ \div b &\quad \div b \\ \sqrt[3]{\frac{3d + 3a}{2b}} &= \sqrt[3]{c^3} \\ \sqrt[3]{\frac{3d + 3a}{2b}} &= c \end{aligned}$$

Note: this could also be written this way: $\left(\frac{3d+3a}{2b}\right)^{\frac{1}{3}} = c$

4. Rewrite your answer for question #3 Khan style.

$$\left(\frac{3d + 3a}{2b}\right)^{\frac{1}{3}} = c$$

$$((3d + 3a)/2b)^{(1/3)} = c$$

5. What is the y-intercept of question #2? What is the x-intercept?

Use your initial formula ($y=...$) to find the y intercept:

$$y = \frac{1}{2}x^2 - 4$$

set $x = 0$ to find the y intercept.

$$y = \frac{1}{2}(0) - 4$$

$$y = -4$$

This is point $(0, -4)$

Use your answer ($x=...$) to find the x intercept:

$$\sqrt{2y + 8} = x$$

set $y = 0$ to find the x intercept.

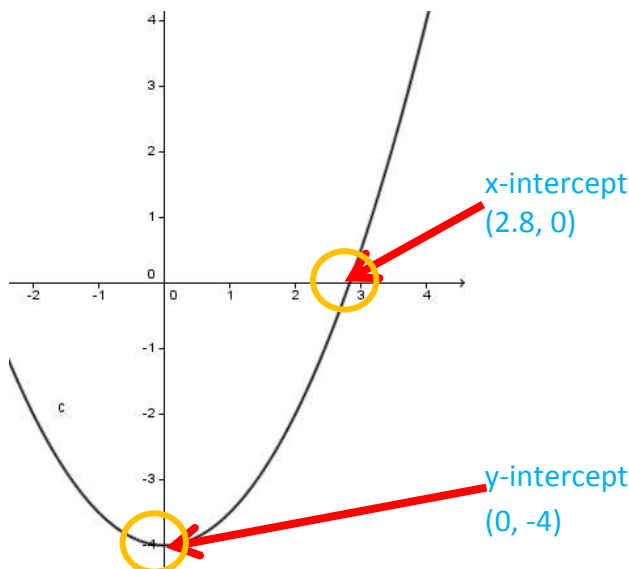
$$x = \sqrt{2(0) + 8}$$

$$x = \sqrt{8}$$

$$x \approx 2.8$$

This is point $(2.8, 0)$

Curious what this looks like? Check it out!



Acceptable Formats

For $2 \cdot 2$, enter $2*2$

For $3y$, enter $3y$ or $3*y$

For $\frac{1}{x}$, enter $1/x$

For $\frac{1}{xy}$, enter $1/(xy)$

For $\frac{2}{x+3}$, enter $2/(x+3)$

For x^y , enter x^y

For $x^{2/3}$, enter $x^(2/3)$

For \sqrt{x} , enter $\text{sqrt}(x)$

For π , enter pi